

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Editorially amend the specification.
2. Editorially amend all claims.
3. Respectfully traverse all prior art rejections.
4. Advise the Examiner of the simultaneous filing of a Petition to Extend.

B. PATENTABILITY OF THE CLAIMS

Claims 1, 2, 4 and 7 stand rejected under 35 USC 103(a) as being unpatentable over the admitted state of the prior art in view of U.S. Patent 6,229,211 to Kawanou et al. Claim 3 stands rejected under 35 USC 103(a) as being unpatentable over the admitted state of the prior art in view of U.S. Patent 6,229,211 to Kawanou et al as applied to claims 1, 2, 4 and 7 and further in view of U.S. Patent 6,284,649 to Miyamoto. Claims 5-6 stand rejected under 35 USC 103(a) as being unpatentable over the admitted state of the prior art in view of U.S. Patent 6,229,211 to Kawanou et al as applied to claims 1, 2, 4 and 7, and further in view of the Wang et al Electroless article. Claims 1 and 5-7 stand rejected under 35 USC 103(a) as being unpatentable over the admitted state of the prior art in view of the Wang et al Suppression article. Claim 3 stands rejected under 35 USC 103(a) as being unpatentable over the admitted state of the prior art in view of the Wang et al Suppression article as applied to claims 1 and 5-7, and further in view of U.S. Patent 6,284,649 to Miyamoto. All prior art rejections are respectfully traversed for at least the following reasons.

According to the Office Action, Claim 1 is rejected under 35 USC § 103 as being unpatentable over the admitted state of the prior art in view of Kawanou et al (US

6229211). That is, Kawanoue et al. teaches barrier metal films that can be used when forming embedded multilevel interconnection, where a copper layer is applied over the barrier film.

Applicants prevent development of voids during electroless plating process wherein a barrier metal film is immersed in a plating liquid. *See, e.g.*, the explanation provided through Applicants' disclosure, including but not limited to the Summary appearing on pages 5 – 6.

On the other hand, as shown in Fig. 2 and Figs. 3A-3E of U.S. Patent 6,229,211 to Kawanoue et al., Kawanoue uses a Cu damascene interconnect 17. That is, Kawanoue et al. do not use an electroless plating process for forming the embedded Cu layer, but instead use a Cu damascene process. So, there is no motivation and/or suggestion in Kawanoue et al. for preventing the formation of voids. Therefore, it is not obvious to those skilled in the art to modify the admitted state of the prior art to use any particular N/Ta ratio which may be shown in Kawanoue et al. Accordingly, all prior art rejections based on U.S. Patent 6,229,211 to Kawanoue et al. are overcome.

The prior art rejections premised on the Wang Suppression Article are also overcome by Applicants' simultaneous filing of a verified English translation of Applicants' priority document.

C. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,
NIXON & VANDERHYE P.C.

By: H. Warren Burnam
H. Warren Burnam, Jr.
Reg. No. 29,366

HWB:lsh
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100